

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancelled).
2. (Currently Amended) The projection objective according to claim [[1]] 23, wherein the immersion liquid directly adjoins, during immersion operation, a concavely curved image-side surface of an optical element that is the last optical element of the projection objective on the image side.
3. (Previously Presented) The projection objective according to claim 2, wherein the curved image-side surface is surrounded by a drainage barrier.
4. (Previously Presented) The projection objective according to claim 3, wherein the drainage barrier is designed as a ring that is joined to the optical element and/or to a housing of the projection objective.
5. (Previously Presented) The projection objective according to claim 2, wherein the curved image-side surface is spherical.
6. (Cancelled).
7. (Currently Amended) The projection objective according to claim [[1]] 23, wherein an intermediate liquid, which is not miscible with the immersion liquid and which forms a curved interface in an electric field, is situated during immersion operation between the immersion

liquid and an optical element that is the last optical element of the projection objective on the image side.

8. (Previously Presented) The projection objective according to claim 7, wherein the intermediate liquid is electrically conductive and the immersion liquid is electrically insulating.

9. (Previously Presented) The projection objective according to claim 7, wherein the intermediate liquid has substantially the same density as the immersion liquid.

10. (Previously Presented) The projection objective according to claim 9, wherein the immersion liquid is an oil and the intermediate liquid is water.

11. (Previously Presented) The projection objective according to claim 7, comprising an electrode for generating the electric field.

12. (Previously Presented) The projection objective according to claim 11, wherein the electrode is an annular conical electrode that is disposed between the optical element and the image plane.

13. (Previously Presented) The projection objective according to claim 11, wherein the curvature of the interface is configured for being altered by altering a voltage applied to the electrode.

14. (Previously Presented) The projection objective according to claim 7, wherein the interface between the intermediate liquid and the immersion liquid is at least approximately spherical.

15-22. (Cancelled).

23 (Previously Presented) A projection objective of a microlithographic projection exposure apparatus for imaging a mask on a photosensitive layer that is disposable in an image plane of the projection objective, wherein the projection objective is designed for immersion operation in which an immersion liquid adjoins the photosensitive layer, and wherein

the immersion liquid forms an interface with a medium that adjoins the immersion liquid on the object side of the projection objective, said interface being convexly curved towards the mask such that the maximum radius of curvature equals the product $m \cdot s$, wherein s is the axial distance between the interface and the image plane and m is a real number between 20 and 120.

24. (Previously Presented) The projection objective according to claim 23, wherein m is between 40 and 100.

25. (Previously Presented) The projection objective according to claim 24, wherein m is between 70 and 90.

26. (Currently Amended) The projection objective according to claim ~~[[1]]~~ 23, wherein the projection objective is a catadioptric objective that has at least two imaging mirrors and in which at least two intermediate images are formed.

27. (Previously Presented) A microlithographic projection exposure apparatus for producing microstructured components, comprising the projection objective according to claim 26.

28-30. (Cancelled).

31. (Currently Amended) A method of microlithographically producing microstructured components, comprising the following steps:

a) providing a substrate to which a layer of a photosensitive material is at least partially applied;

b) providing a mask that contains structures to be imaged;

c) providing a projection exposure apparatus comprising a projection objective according to claim 23;

d) projecting at least a part of the mask on a region of the layer with the aid of the projection exposure apparatus,

wherein:

the projection objective is a projection objective of a microlithographic projection exposure apparatus for imaging a mask on a photosensitive layer that is disposable in an image plane of the projection objective;

the projection objective is designed for immersion operation in which an immersion liquid adjoins the photosensitive layer;

the immersion liquid forms an interface with a medium that adjoins the immersion liquid on the object side of the projection objective;

said interface is convexly curved towards the mask such that the maximum radius of curvature equals the product $m \cdot s$;

s is the axial distance between the interface and the image plane; and

m is a real number between 20 and 120.

32. (Cancelled).